LONG-TERM OBSERVATIONS IN THE ARCTIC:

ENVIRONMENTAL OBSERVATORIES

REMOTE/AUTONOMOUS INSTRUMENTS

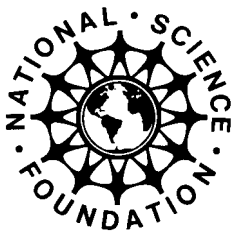
SAMPLE REPOSITORIES

Program Solicitation
NSF 99-101

OFFICE OF POLAR PROGRAMS

DEADLINE DATE: JUNE 25, 1999

NATIONAL SCIENCE FOUNDATION



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Location:	4201 Wilson Blvd. Arlington, VA 22230
For General Information (NSF Information Center):	(703) 306-1234
TDD (for the hearing-impaired):	(703) 306-0090
To Order Publications or Forms:	
Send an e-mail to:	pubs@nsf.gov
or telephone:	(301) 947-2722
To Locate NSF Employees:	(703) 306-1234

SUMMARY OF PROGRAM REQUIREMENTS

GENERAL INFORMATION

Program Name: Long-Term Observations in the Arctic

Short Description/Synopsis of Program: The goal of the Long-term Observations in the Arctic program is to increase the availability of long-term environmental data in the Arctic. Sites are needed due to the scarcity of observations in the Arctic (compared to most places on Earth), the lack of ready access to many parts of the Arctic, or the necessity to collect new samples because no Arctic sample curatorial facility exists except for ice cores. Proposals should include a scientific justification for long-term measurements and the infrastructure requirements to establish and implement measurements at an Environmental Observatory for up to five years (renewable), the rationale for building and installing remote autonomous instrumentation, or the establishment of sample (other than ice) repositories that provide long-term community-wide access.

Cognizant Program Officer(s): Mr. Charles Myers, Office of Polar Programs, (703) 306-1029, email: cmyers@nsf.gov

Applicable *Catalog of Federal Domestic Assistance* (CFDA) No.: 47.078 — Polar Programs

ELIGIBILITY

- Limitation on the categories of organizations that are eligible to submit proposals:

  Proposals submitted in response to this solicitation will be accepted from U.S. colleges, universities, and other not-for-profit institutions. Local, state, or federal government organizations (including Federally Funded Research and Development Centers) are not eligible to submit proposals. Such organizations may, however, request support to participate in research conducted by eligible organizations by means of subcontracts. (See section on "Eligibility" for more detail.)

- PI eligibility limitations: **None**

- Limitation on the number of proposals that may be submitted by an organization: **None**

AWARD INFORMATION

- Type of award anticipated: **Standard or Continuing Grant**

- Number of awards anticipated in FY 99: **10-20 awards**

- Amount of funds available: **Estimates: FY99 - $3.7M; FY00 - $5.3M; FY01 - $3.0M; FY02 – 3.0M; FY03 - $2.5M**

- Anticipated date of award: **September 1999**

PROPOSAL PREPARATION & SUBMISSION INSTRUCTIONS

- **Proposal Preparation Instructions**

- Letter of Intent requirements: **None**
- Preproposal requirements: **None**
- Proposal preparation instructions: **Standard NSF *Grant Proposal Guide* instructions, (**www.nsf.gov/pubs/1999/nsf992/start.htm**)**
- Supplemental proposal preparation instructions**: where needed include Appendix 2: Arctic Logistics Coordination Information found in the Arctic Research Program Opportunities at (http://www.nsf.gov/cgi-bin/getpub?nsf9872)**
- Deviations from standard (GPG) proposal preparation instructions: **None, except as mentioned above**

♦ **Budgetary Information**

- Cost sharing/matching requirements: **None**
- Indirect cost (F&A) limitations: **None**
- Other budgetary limitations: **None**

♦ **FastLane Requirements**

- FastLane proposal preparation requirements: **FastLane use optional**
- FastLane point of contact: **Sarita Rich, OPP, Fastlane Representative, telephone: (703) 306-1033, e-mail: srich@nsf.gov, FastLane User Support, telephone: (703) 306-1142, e-mail: Fastlane@nsf.gov**

♦ **Deadline/Target Dates**

- Full Proposal Deadline **5:00 PM, ET, June 25, 1999**

PROPOSAL REVIEW INFORMATION

♦ Merit Review Criteria: **Standard National Science Board approved criteria**

♦ Other Review Criteria**: See Proposal Review Information, Section B**

AWARD ADMINISTRATION INFORMATION

♦ Grant Award Conditions: GC-1 or FDP III

♦ Special grant conditions anticipated: **Polar Programs data policy statement**

♦ Special reporting requirements anticipated: **none**

INTRODUCTION

For the last few decades the scientific community has expressed concern about the vulnerability of the Arctic and its residents to environmental and associated social and economic changes. For example, climate model studies indicate that the Arctic environment may react particularly sensitively to global climate change. Now research results show that Arctic climate and ecosystems are indeed changing substantially with impacts on people living in and outside the Arctic. Some changes appear to have begun as early as the 1970's, but many have only become significant in the 1990's. In order to predict the magnitude and rate of change, computer simulations of future environmental conditions require both spatial and temporal data sets to parameterize and validate the models. The lack of dense environmental data coverage in the Arctic due to inaccessibility or lack of long-term, continuous measurement stations, hampers efforts to provide the desired predictive capability. Expansion of current efforts (which are small in comparison to the region's size and global importance) will allow documentation and understanding of changes that are already taking place and how they are impacting the environment (including humans).

The Arctic region includes some of the most extreme environments on the planet, where radical changes in photoperiod and excursions in temperature affect growing seasons alternately to constrain and stimulate terrestrial and marine ecosystems. People around the circumpolar North have coped successfully over millenia with this environment, accumulating an extensive body of environmental knowledge as well as keen awareness of ecosystem changes. Because the Arctic has many unique conditions, better understanding of the region will contribute to basic research with intrinsic interest as well as a predictive capability for understanding the impact of future change. The Arctic's physical and biological systems are regulated by processes the study of which offer numerous opportunities for advancing basic knowledge. Many of these processes are not well understood. Ice, snow, glaciers, tundra, permafrost, boreal forests, peatlands, and coastal habitats are sensitive integrators and indicators of change; investigating these can also provide fundamental information about the interactions and processes which regulate them.

PROGRAM DESCRIPTION

A relatively meager observational infrastructure in the Arctic combined with the spatial scale and topical breadth of the research issues presents the research community with new challenges. If basic information about Arctic environmental processes and the implications and effects of changes in the Arctic are to be understood, a long-term, systematic observation program must be initiated. This, in turn, requires substantially improved logistics support. The value of time series as a vehicle for increased understanding adds to the priority of a carefully designed and coordinated observing system in the Arctic. This measurement system will provide the underpinning for a wide variety of environmental studies. That necessity has been recognized in the NSF Long-Term Ecological Research (LTER) Program and one LTER site (Toolik Field Station, Alaska) has been supported in the Arctic since 1987 and was founded on a body of research conducted at the site since 1975.

Tools to facilitate spatial extrapolation, interpolation, and scale transformations (GIS, remote sensing, spatial statistics) have become available in recent decades, but there can be no substitute for carefully developed sampling programs to optimize efficiency. The U.S. Arctic Research Commission/NSF Report, "Logistics Recommendations for an Improved U.S. Arctic Research Capability" (ARCUS, 1997; http://www.arcus.org/) identifies logistics requirements that must be enhanced to support data collection in areas of the Arctic where access has been difficult. As part of the recommendations summarized in that report, a network of Environmental Observatories, remote/autonomous instruments, and community access to existing samples could facilitate many of the Arctic research community's support needs. This approach provides an observational strategy to measure the important time and space scales of changes in the Arctic. The priorities for improvements that enhance long-term Arctic research and education include:

Environmental Observatories: The coordinated development of a set of strategically placed facilities, each of which is equipped for on-site research into processes that span Arctic science and for collection of year-round, comprehensive suites of observations. These might develop rather easily from systematic enhancements of existing facilities, including those in Greenland and Alaska or observation systems established at sites where data have not been collected previously. The development of Arctic Environmental Observatories is likely to spur technological advances in automated and remote sensing technology. Enhancement of local centers/research sites/facilities, including cultural and social science centers, community museums, will also be considered. Such enhancements

could include spatial sampling; social science data gathering, processing, archiving, and dissemination; and activities for local community involvement and cross-disciplinary collaboration. Observatories could also serve as bases for support of field work in surrounding areas. Where observatories are not practical, proposals to facilitate researchers' work through "virtual centers" in particular disciplines, involving communication with colleagues, data management, and logistics coordination will be entertained. The social sciences should be a key part of the recommended network of Arctic Environmental Observatories. Integration of education efforts and social science research with other ongoing studies, improving communication among Arctic social and physical/natural scientists and providing access to diverse cultures across geographical areas will be a priority.

Remote/Autonomous Instruments: Some examples of relevant activities not directly tied to specific environmental observatories include moorings, drifting and land-based automated sampling stations, regular hydrographic surveys, long-term remote observations of animal populations, permafrost and ice sheet monitoring, submarine surveys of ice thickness and distribution, expanded measurements of terrestrial and oceanic weather, increased atmospheric sampling, and snow measurements. Related needs include the technical development of miniaturized, remote, automated sensing devices, and the support of field-instrument development, and deployment of these instruments at sites that facilitate achievement of better spatial and temporal coverage.

Sample Repositories: Samples collected in one research project may be valuable for other related or non-related studies conducted, in some cases, many years later. Examples of the application of this principle are common for ice and marine-sediment cores, rock samples, and biological specimens. In the case of the social sciences in the Arctic, facilities for data processing, archiving, and dissemination are needed to enhance opportunities for social scientists to attain cross-fertilization of research projects across diverse disciplines and to establish and maintain improved communication with Arctic communities. Proposals to support a facility for storing, cataloging, and making available historical and new Arctic samples of particular value due to their rarity, importance to a wide range of studies, including education or great expense for re-collection are particularly encouraged. Proposals will also be considered (with the US Antarctic Program) for consolidation of Arctic and Antarctic repositories.

ELIGIBILITY

Proposals may be submitted by institutions to support individual investigators or small groups. Synergistic collaboration among researchers and collaboration or partnerships with industry or government laboratories is encouraged when appropriate. Group and collaborative proposals involving more than one institution must be submitted as a single administrative package from one of the institutions involved.

Proposals submitted in response to this solicitation will be accepted from U.S. colleges, universities, and other not-for-profit institutions. Local, state, or federal government organizations (including Federally Funded Research and Development Centers) are not eligible to submit proposals. Such organizations may, however, request support to participate in research conducted by eligible organizations by means of subcontracts.

AWARD INFORMATION

- Under this solicitation, proposals may be submitted for any funding amount under $1.5 million per year for up to five years. Within those limitation, grants may be awarded for a wide variety of award sizes and durations. NSF expects to fund approximately 10 to 20 standard or continuing research awards depending on the quality of submissions and the availability of funds. Approximately $17.5 million will be available for this initiative for the period FY 1999-03 (FY99 - $3.7M; FY00 - $5.3M; FY01 - $3.0M; FY02 – 3.0M; FY03 - $2.5M). The anticipated date of awards is September 1999.

PROPOSAL PREPARATION & SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions.

Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the *Grant Proposal Guide* (GPG), NSF 99-2 . The complete text of the GPG (including electronic forms) is available electronically on the NSF Web site at: <http://www.nsf.gov/>. Paper copies

of the GPG may be obtained from the NSF Publications Clearinghouse, telephone 301.947.2722 or by e-mail from pubs@nsf.gov.

Proposers are reminded to identify the program solicitation number (NSF 99-101) in the program announcement/solicitation block on the NSF Form 1207, "*Cover Sheet for Proposal to the National Science Foundation*." Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

A proposal may be submitted for a site with ongoing research or for a site which would require an entirely new effort. The existence of major, relevant long-term data bases for a site is viewed positively. Use of existing Federal and state facilities, and collaboration with other long-term research sites or programs, both national and international, is encouraged.

Proposals for Environmental Observatory and Remote/Autonomous Instrumentation should document the proposing organization's demonstrated experience in providing the scientific and organizational coordination of projects with ongoing research at existing Arctic sites, including international sites. Research questions, analytical methods, and information management/data accessibility protocols are all important areas for planned coordination.

Principal Investigator(s) will be expected to make a long-term time commitment to the proposed project.

Proposers should develop and explain the conceptual framework that provides the unifying theme for the proposed EO or Remote/Autonomous Instrumentation research. Describe in some detail the long-term experiments, sampling protocols, monitoring, or data gathering/archiving/dissemination strategies to be pursued and explain how they fit into a conceptual framework. Describe the methods and data analyses so that the quality of these long-term efforts can be critically evaluated by reviewers. In addition, describe any short-term, mechanistic experiments, empirical studies, sampling programs, modeling efforts, etc., that will be conducted. Describe the methods and planned analyses in detail and explain how these short-term studies fit into the conceptual framework. The proposer should describe the proposed information management system and metadata standards to be used at your site. How will the data manager be involved in the design of research projects? What mechanisms will you employ to assure that researchers contribute their data to appropriate national databases? Proposers for all activities should identify criteria to be used to limit or provide other researchers access to data sets or samples. What types of usable data sets will be available to the K-12 school community? How often will data sets be updated on the World Wide Web?

Where logistics support is required, include Appendix 2: Arctic Logistics Coordination Information found in the Arctic Research Program Opportunities at (http://www.nsf.gov/cgi-bin/getpub?nsf9872).

B. Proposal Due Dates.

For paper submission of proposals, the paper copies of the proposal **MUST** be received by 5:00 PM, ET, June 25, 1999. Twenty (20) copies of the proposal must be made and submitted to NSF according to the normal procedures for paper proposals identified in the GPG.

For electronic submission of proposals, the proposal **MUST** be submitted by 5:00 PM, local time, June 25, 1999. Copies of the signed proposal cover sheet must be submitted in accordance with the instructions identified below.

Submission of Signed Cover Sheets. For proposals submitted electronically via FastLane, the signed proposal Cover Sheet (NSF Form 1207) should be forwarded to the following address and received by NSF by July 2, 1999.

National Science Foundation
DIS-FastLane Cover Sheet
4201 Wilson Blvd.
Arlington, VA 22230

A proposal may not be processed until the complete proposal (including signed Cover Sheet) has been received by NSF.

C. FastLane Requirements.

The NSF FastLane system is available for electronic preparation and submission of a proposal through the Web at the FastLane Web site at <http://www.fastlane.nsf.gov>. The Sponsored Research Office (SRO or equivalent) must provide a FastLane Personal Identification Number (PIN) to each Principal Investigator (PI) to gain access to the FastLane "Proposal Preparation" application. PIs that have not submitted a proposal to NSF in the past must contact their SRO to be added to the NSF PI database. This should be done as soon as the decision to prepare a proposal is made.

In order to use NSF FastLane to prepare and submit a proposal, the following are required:

Browser (must support multiple buttons and file upload)
- Netscape 3.0 or greater
- Microsoft Internet Explorer 4.01 or greater

PDF Reader (needed to view/print forms)
- Adobe Reader 3.0 or greater

PDF Generator (needed to create project description)
- Adobe Acrobat 3.01 or greater
- Aladdin Ghostscript 5.10 or greater

A list of registered institutions and the FastLane registration form are located on the FastLane Web page.

For paper submission of proposals, the delivery address **must clearly identify the NSF announcement or solicitation number** under which the proposal is being submitted.

PROPOSAL REVIEW INFORMATION

A. Merit Review Criteria.

Review of proposals submitted to NSF are solicited from peers with expertise in the substantive area of the proposed research or education project. These reviewers are selected by Program officers charged with the oversight of the review process. NSF invites the proposer to suggest at the time of submission, the names of appropriate or inappropriate reviewers. Care is taken to ensure that reviewers have no conflicts with the proposer. Special efforts are made to recruit reviewers from non-academic institutions, minority serving institutions, adjacent disciplines to that principally addressed in the proposal, etc.

Proposals will be reviewed against the following general merit review criteria established by the National Science Board. Following each criterion are potential considerations that the reviewer may employ in the evaluation. These are suggestions and not all will apply to any given proposal. Each reviewer will be asked to address only those that are relevant to the proposal and for which he/she is qualified to make judgments.

What is the intellectual merit of the proposed activity?

How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of prior work.) To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Integration of Research and Education

One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learner perspectives. PIs should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

Integrating Diversity into NSF Program, Projects, and Activities

Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- are essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports. PIs should address this issue in their proposal to provide reviewers with the information necessary to respond fully to both NSF merit review criteria. NSF staff will give it careful consideration in making funding decisions.

Additional Review Criteria.

Use of existing long-term data bases and facilities. The existence of major, relevant long-term data bases for a site is viewed positively. Use of existing Federal and state facilities, and collaboration with other long-term research sites or programs, both national and international, is encouraged.

Organizational Experience. Proposals for Environmental Observatory and Remote/Autonomous Instrumentation will be evaluated on the proposing organization's demonstrated experience in providing the scientific and organizational coordination of projects with ongoing research at existing Arctic sites, including international sites. Research questions, analytical methods, and information management/data accessibility protocols are all important areas for planned coordination.

B. Merit Review Process.

Most of the proposals submitted to NSF are reviewed by mail review, panel review, or some combination of mail and panel review. Proposals submitted in response to this solicitation will be reviewed by panel review only.

All proposals are carefully reviewed by at least three other persons outside NSF who are experts in the particular field represented by the proposal. Reviewers will be asked to formulate a recommendation to either support or decline each proposal. A program officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation. In most cases, proposers will be contacted by the program officer after his or her recommendation to award or decline funding has been approved by his or her supervisor. This informal notification is not a guarantee of an eventual award. NSF will be able to tell applicants whether their proposals have been declined or recommended for funding within six months for 95 percent of proposals in this category. The time interval begins on the proposal deadline or target date or from the date of receipt, if deadlines or target dates are not used by the program. The interval ends when the division director accepts the program officer's recommendation.

In all cases, after final programmatic approval has been obtained, award recommendations are then forwarded to the Division of Grants and Agreements for review of business, financial and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with an NSF program officer. A principal investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants Officer does so at its own risk.

AWARD ADMINISTRATION INFORMATION

A. Notification of the Award.

Notification of the award is made ***to the submitting organization*** by a Grants and Agreements Officer in the Division of Grants and Agreements (DGA). Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program Division administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator.

B. Grant Award Conditions.

An NSF grant consists of: (1) the award letter, which includes any special provisions applicable to the grant and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable grant conditions, such as Grant General Conditions (NSF GC-1)* or Federal Demonstration Partnership Phase III (FDP) Terms and Conditions; and (5) any NSF brochure, program guide, announcement or other NSF issuance that may be incorporated by reference in the award letter. Electronic mail notification is the preferred way to transmit NSF grants to organizations that have electronic mail capabilities and have requested such notification from the Division of Grants and Agreements.

***** These documents may be accessed electronically on NSF's Web site at: <http://www.nsf.gov/>. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone 301.947.2722 or by e-mail from pubs@nsf.gov.

More comprehensive information on NSF Award Conditions is contained in the NSF Grant Policy Manual (GPM) Chapter II, (NSF 95-26) available electronically on the NSF Web site. The GPM also is available in paper copy by subscription from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. The GPM may be ordered through the GPO Web site at: <http://www.gpo.gov>.

The Office of Polar Programs also requires submission of OPP-supported data, derived data products, samples, physical collections, and other supported materials to national data centers and other specified repositories. See the Office of Polar Programs Guidelines and Award Conditions for Scientific Data (http://www.nsf.gov/cgi-bin/getpub?opp991). In addition, it is expected that data derived from EO and Remote/Autonomous Instrument funding will be made freely and widely available within two years of collection, although exceptions are made for graduate student research.

C. Reporting Requirements.

For all multi-year grants (including both standard and continuing grants), the PI must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period.

Within 90 days after expiration of a grant, the PI also is required to submit a final project report. Approximately 30 days before expiration, NSF will send a notice to remind the PI of the requirement to file the final project report. Failure to provide final technical reports delays NSF review and processing of pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

NSF has implemented a new electronic project reporting system, available through FastLane, which permits electronic submission and updating of project reports, including information on: project participants (individual and

organizational); activities and findings; publications; and, other specific products and contributions. Reports will continue to be required annually and after the expiration of the grant, but PIs will not need to re-enter information previously provided, either with the proposal or in earlier updates using the electronic system.

Effective October 1, 1998, PIs are required to use the new reporting format for annual and final project reports. PIs are strongly encouraged to submit reports electronically via FastLane. For those PIs who cannot access FastLane, paper copies of the new report formats may be obtained from the NSF Clearinghouse as specified above. NSF expects to require electronic submission of all annual and final project reports via FastLane beginning in October, 1999.

D. New Awardee Information.

If the submitting organization has never received an NSF award, it is recommended that the organization's appropriate administrative officials become familiar with the policies and procedures in the NSF *Grant Policy Manual* which are applicable to most NSF awards. The "Prospective New Awardee Guide" (NSF 97-100) includes information on: Administration and Management Information; Accounting System Requirements and Auditing Information; and Payments to Organizations with Awards. This information will assist an organization in preparing documents that NSF requires to conduct administrative and financial reviews of an organization. The guide also serves as a means of highlighting the accountability requirements associated with Federal awards. This document is available electronically on NSF's Web site at: <http://www.nsf.gov/cgi-bin/getpub?nsf97100>.

CONTACTS FOR ADDITIONAL INFORMATION

Questions regarding proposal preparation or submission may be directed to Mr. Charles Myers, Office of Polar Programs, (703) 306-1029, email: cmyers@nsf.gov. For questions relating to the use of FastLane, contact Sarita Rich, OPP, Fastlane Representative, telephone: (703) 306-1033, e-mail: srich@nsf.gov, FastLane User Support, telephone: (703) 306-1142, e-mail: Fastlane@nsf.gov.

OTHER PROGRAMS OF INTEREST

The NSF Guide to Programs is a compilation of funding opportunities for research and education in science, mathematics, and engineering. General descriptions of NSF programs, research areas, and eligibility information for proposal submission are provided in each chapter. Beginning in fiscal year 1999, the NSF Guide to Programs only will be available electronically. Many NSF programs offer announcements concerning specific proposal requirements. To obtain additional information about these requirements, contact the appropriate NSF program offices listed in Appendix A of the GPG.

Any changes in NSF's fiscal year programs occurring after press time for the Guide to Programs will be announced in the NSF E-Bulletin, available electronically on the NSF Web site at: <http://www.nsf.gov/home/ebulletin/>. Subscribers can also sign up for NSF's Custom News Service to find out what funding opportunities are available.

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) funds research and education in most fields of science and engineering. Grantees are wholly responsible for conducting their project activities and preparing the results for publication. Thus, the Foundation does not assume responsibility for such findings or their interpretation.

NSF welcomes proposals from all qualified scientists, engineers and educators. The Foundation strongly encourages women, minorities, and persons with disabilities to compete fully in its programs. In accordance with federal statutes, regulations, and NSF policies, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from NSF (unless otherwise specified in the eligibility requirements for a particular program).

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF-supported projects. See the program announcement or contact the program coordinator at (703) 306-1636.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation regarding NSF programs, employment, or general information. TDD may be accessed at (703) 306-0090 or through FIRS on 1-800-877-8339.

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the review process; to applicant institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies needing information as part of the review process or in order to coordinate programs; and to another Federal agency, court or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records," 63 Federal Register 268 (January 5, 1998). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to: Reports Clearance Officer; Information Dissemination Branch, DAS; National Science Foundation; Arlington, VA 22230.

YEAR 2000 REMINDER

In accordance with Important Notice No. 120 dated June 27, 1997, Subject: Year 2000 Computer Problem, NSF awardees are reminded of their responsibility to take appropriate actions to ensure that the NSF activity being supported is not adversely affected by the Year 2000 problem. Potentially affected items include: computer systems, databases, and equipment. The National Science Foundation should be notified if an awardee concludes that the Year 2000 will have a significant impact on its ability to carry out an NSF funded activity. Information concerning Year 2000 activities can be found on the NSF web site at http://www.nsf.gov/oirm/y2k/start.htm.

Catalogue of Federal Domestic Assistance (CFDA) No.: 47.078 – Polar Programs
OMB No.: 3145-0058
NSF 99-101